Bradshaw Lectures
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COLOTOMY

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THE BRADSHAW LECTURE

ON

COLOTOMY, LUMBAR AND ILIAC

WITH SPECIAL REFERENCE TO

THE CHOICE OF OPERATION

Delivered before the Royal College of Surgeons of England
December 5th, 1889

BY

THOMAS BRYANT, F.R.C.S.

M.CH. (HON.) ROY. UNIV. I.

VICE-PRESIDENT AND MEMBER OF THE COURT OF EXAMINERS OF THE ROYAL COLLEGE OF SURGEONS; CONSULTING SURGEON TO GUY'S HOSPITAL; MEMBER OF THE SURGICAL SOCIETY OF PARIS



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COLOTOMY, LUMBAR AND ILIAC,

WITH SPECIAL REFERENCE TO

THE CHOICE OF OPERATION.

Mr. President and Gentlemen,—For the honour you have conferred upon me by nominating me your Bradshaw lecturer I offer you my best thanks; and I trust I shall be fulfilling the intentions of the founder of this lectureship by selecting for consideration a surgical question which may fairly be said to have come into notice during the lifetime of Dr. William Bradshaw, of Reading (to whose memory this lecture was instituted in 1880), and to have grown rapidly into prominence since his death. The subject to which I wish to draw your attention is that of Colotomy, and I propose to consider

it chiefly with reference to the form of operation which should be selected. It is not my intention to enter at any length into the history of the operation, for such would be wearisome; but I must remind you that while Littré in 1710 *suggested*, in the 'Memoirs of the Academy of Sciences of Paris,' the performance of the iliac (miscalled inguinal) or intra-peritoneal colotomy for the relief of infants born with imperforate bowel, the idea was not practically applied for eighty-seven years, when Pillore of Rouen in 1797 opened the cæcum in the right iliac fossa; and that while Callisen of Copenhagen *proposed* the extra-peritoneal operation of lumbar colotomy in 1796, it was not till 1839, when the operation was taken up and carried into effect by Amussat, that colotomy can in any sense be said to have found a place in the practice of surgery. The practical adoption of the operation was, however, very slow as far as London was concerned, for in October, 1859 (that is, twenty years after Amussat's success), or thirty years ago, when I undertook my first lumbar colotomy in a patient of the late Dr. Thomas Addison, the operation had been undertaken but once at

Guy's Hospital, and that was by Mr. Hilton ten years previously;* and I am not aware that it had at that time been performed at any other hospital. Indeed, it may with all truth be said that the operation in both its varieties was then regarded with scant favour by the general body of the profession.

It may have been occasionally sanctioned as an operation for the relief of congenital rectal malformations when other measures had failed or were inapplicable; and to bring about this practice Mr. Curling's paper of 1860† had an undoubted influence; but as a means for giving relief to patients suffering from chronic intestinal organic ulceration or obstruction, from whatever cause, it was generally, and, indeed, I may say is still, too much regarded as a *dernier ressort*, and, as a consequence, it was as a rule only carried out when all other means had been tried and proved to be useless. This position of colotomy, I, in common with some few other surgeons, have, however, never accepted. We

* 'Guy's Hospital Reports,' 1849.

† 'Transactions of the Royal Medical and Chirurgical Society,' vol. xliii.

have held a more favorable view of its capabilities both as a life-saving as well as a reliable palliative measure. We have regarded it as the best means the surgeon has at his disposal for the relief of rectal obstruction from cancerous and other disease which is not otherwise removable; for experience has proved that life may by it be saved when the disease is not cancerous, and prolonged even for years when it is so. Experience has likewise taught us, where these good results are not to be expected, that what remains of life will be made more endurable; for the local disease which is the cause of the obstruction makes much slower progress and becomes a source of less distress as soon as the fæces are diverted from their normal course, and as an agent of irritation are removed. Within the last ten years there has consequently been a remarkable advance in the position of colotomy as an operation for the relief of rectal stricture, and at the present day the value of the operation is not only fully recognised by an increasing number of surgeons, but a warm discussion has arisen as to the operation which should be performed; indeed, the casual reader

of the journals and periodicals might be led to think that the lumbar or extra-peritoneal measure, which has hitherto found most favour, was becoming obsolete and doomed to give way to the iliac or intra-peritoneal method. For at the present time—where in this branch of surgery, as in so many others, we see a measure of success follows modern practice, which by the old could never have been anticipated; when old landmarks are removed, and new ones are being laid down; it may appear to the skilful and ambitious as if "all things seem possible;" under such circumstances it behoves us, therefore, to take stock of facts and see whither we are tending, in order that the old paths be not blotted out by new without a good reason, and that change should not be mistaken for improvement; for caution must still be the surgeon's motto, and venturesomeness his rock of offence.

I propose in the present lecture, therefore, to compare the value of the lumbar or extra-peritoneal with the iliac or intra-peritoneal method of colotomy, and so utilise the experience I may have had of one or both operations,

to help towards the solution of the important practical problem as it now presents itself.

I would premise, however, in order to make clearer what I shall have to notice later on, that I have for many years always employed the oblique incision for lumbar colotomy (see engraving). For this line of incision not only



follows the course of the nerves and vessels and allows room for all necessary manipulation, but falls naturally into the fold of skin above the crest of the ilium, which is constant in all, and well marked in fat, people. This fold, I have reason to believe, acts beneficially in preventing the prolapse of the bowel which sur-

geons who employ other lines of incision are said to complain of, and at the same time tends to keep the artificial anus closed. When the bowel is exposed, I separate it carefully with the fingers from its upper and posterior attachments, and so allow it to bulge well out of the wound. When it is not over-distended, I, with a finger gently introduced at its posterior border, hook it well out of the wound, and rotate it inwards, in order to expose to view its posterior longitudinal band. I then and there fix it to the margins of the skin wound. Should the symptoms be urgent, I open the bowel at once, after having passed two sutures with a long straight needle through the integument and bowel, and given them into the hands of an assistant to hold and to keep tight. I open the bowel between these sutures, and as the contents of the bowel escape keep a stream of iodine water flowing over the part. With an aneurysm needle or finger inserted into the lumen of the opened bowel, I then draw the centre of one suture out, divide it, and with the divided suture fasten the opposite borders of the bowel to the skin wound, and deal with the second suture in

a like way. A free opening is made into the bowel. The bowel is fixed subsequently with two or more sutures, and, as a rule, the inner border of the wound is left open for drainage purposes, particularly if the patient be very fat. When there is no need or urgency to open the bowel at the time of operation, I leave it *in situ* for three or more days. In some cases I stitch the projecting unopen bowel to the margin of the wound; in others I transfix it with long pins. The former practice seems preferable in fat subjects, where the wound is deep; the latter in thin subjects where the bowel can be well drawn out. I never fix the bowel to the muscle. In two or three cases in which I have transfixed the bowel with pins I have had some slight local inflammation and suppuration from the escape of fæcal air at one or other of the points of puncture; but this complication has never been the source of any serious detriment. The practice, indeed, is so simple and satisfactory that I do not regard this objection as one of any importance.

I do not propose to make much use of or to rely upon statistics in the question before us—

for the value of an operation of colotomy is no more to be estimated by statistical results than is that of herniotomy, and yet the value of herniotomy is never questioned. The immediate success or failure of both operations turns but little upon the operation itself if well performed, but upon two main points—the first being the local condition of the bowel above the seat of obstruction in colotomy, and at the seat of strangulation in herniotomy; and the second upon the general condition and age of the patient when submitted to either ordeal. In both cases, if, from procrastination, serious intestinal changes have taken place, before relief is given, recovery is hardly to be expected. In both cases, if these changes are but slight, recovery may be looked for; and yet again, in both cases, if from old age or organic visceral disease, feebleness be present, success will not be obtained; for where patients have, from whatever cause, no reserve of power at the Bank of Health upon which to draw in an emergency, the repair of parts injured by disease or operation becomes impossible. It is clearly evident, therefore, that in colotomy, as in herniotomy, the period at which either opera-

tion is undertaken, with respect to the changes in the bowel involved in either the obstruction or strangulation, is a matter of primary importance.

In herniotomy this truth is fully recognised, in colotomy it should be. The earlier either operation is performed the better will be the patient's chances; the longer it is postponed the greater will be the risks of serious incurable organic changes taking place in the intestine and consequently the greater the risk to life. In the operation now under our immediate notice can it be said that these truths have had due weight, for has it not been too much the custom—indeed, is it not too much so now for a large part of the profession, and particularly of its medical side—to look upon colotomy as a measure which should only be undertaken when all medical and other surgical means have been proved to be useless, and when an agonising death within a few hours stares the patient fully in the face unless relief be speedily afforded? Under such circumstances, can there, then, be any wonder that the statistics of both the extra- and intra-peritoneal forms of operation appear at first sight to be so

bad, and that those of Erckelen, carefully compiled up to 1884, are made by Treves to show that thirty-eight in every hundred cases of lumbar, and forty-six in every hundred cases of iliac colotomy died within twenty-one days of the operation, though probably, I may add, not from it. To my mind it is, however, a matter of wonder that the mortality of the operation was not higher, for considering the circumstances under which most, if not all, of these operations were undertaken—that is, as a last resource,—the prognosis in all must have been most unfavourable. I believe, therefore, that the statistics I have quoted should be read in another way, and that it should be recognised that 62 per cent. of the cases of lumbar and 54 per cent. of the cases of the iliac operation were rescued from the grave, since it is more than probable that all the cases which were operated upon would have been undoubtedly lost if colotomy in one of its forms had not have been performed. In fact, it may with truth be asserted that, in spite of the adverse circumstances in which the operation was undertaken, the large majority of the patients gained by it a consider-

able addition to their lives, whilst those that sank within the month found relief, and were saved from the intense miseries of a death from obstruction, and died peacefully.

Author's Cases.—I should here say that I have performed 170 cases of lumbar colotomy, and that all but ten were on the left side. One hundred of these were urgent cases, and the operation was undertaken to ward off impending death; of these fifty-five were successful, and forty-five sank within the month. These last are the cases I have described as "too late cases," since it is fairly certain that if the operation had been considered and undertaken at an earlier period of obstruction, and before death stared the patient in the face, many months of life would have been given to each sufferer, and much severe distress would have been saved.

Lumbar Colotomy Cases for Cancer.

One hundred urgent cases, of which fifty-five were successful.

45 died within the month (too late cases).

18 died within twelve months.
19 lived between one and two years.
12 lived between two and three years.
6 are now alive—3 between two and a half and five years after operation; 1, six years.

Seventy not urgent cases.

Not one died within the month.
18, or 15 per cent., died within twelve months.
24, or 34 per cent., lived between one and two years.
16, or 22 per cent., lived between two and three years.
12, or 17 per cent., are now alive, and 8 of these from two to six years after the operation.
38 per cent. of the whole number have survived the operation from two to six years.

Of the fifty-five successful urgent cases, eighteen, or about one third, survived the operation a variable number of months, but died within the year; another third lived between one and two years; twelve lived from two to three years; six are now alive, three, two and a half and three

years respectively after operation, and one, a lady aged seventy-one, upon whom I was persuaded to operate nearly six years ago with the sole view of giving relief to the agonising pain she was enduring. She was so feeble that I never thought it possible she could live many hours; by good nursing and the careful guidance of her medical attendant she, however, made an uninterrupted recovery, and is now apparently well and suffering but little from her rectal disease.

Seventy cases were operated upon before obstruction threatened life and with the object of giving relief to the constant effort to pass stools and to the pain which was associated with it. Not one of these cases sank from the operation; all convalesced and expressed themselves as grateful for the relief which the operation had afforded. When death came it was painless and from exhaustion—euthanasia. Eighteen of these cases, or about a fourth of the whole number, died within twelve months. Twenty-four, or about one third, lived between one and two years. Sixteen lived two and three years. Twelve are now alive, eight

having survived the operation from two to six years. Another ten or more cases which have been operated upon during the last twelve or eighteen months are alive and going along comfortably. These are not included in the above list.

I should say that in at least three fourths of the patients who convalesced from the operation and experienced its benefits the artificial anus was a success—that is, that the whole of the fæces were discharged through it, and the local disease was left unirritated by the passage of fæcal matter. In the remaining fourth this desirable result was not secured, and fæces at times—particularly when they were liquid—passed downwards, and added to the local irritation of the obstructing disease. Relief was, however, afforded to all these patients by the use of cleansing enemata, injected sometimes from the rectum below, and sometimes from the artificial anus above, and the subsequent introduction of a sedative suppository through either anus.

With these observations upon my own experience, which I thought well to place before you

at this period of my lecture, I will now pass on to consider the relative advantages of the iliac or intra-peritoneal, and the lumbar or extra-peritoneal operation, for within the last few years it has become what I fear I must call the "fashion" to advocate the former as being, in the words of one of its supporters, "greatly superior to the lumbar method;" and the credit of forcing this question upon the attention of the profession must be mainly given to Messrs. Reeves, Herbert Allingham, Harrison Cripps, and Chavasse.

The chief grounds upon which these surgeons advocate the operation are as follows:—(1) That the iliac operation is in itself easier than the lumbar; (2) that by means of the abdominal incision the diagnosis in obscure cases may be verified before the bowel is opened; (3) that by it there can be no possibility of the surgeon mistaking the small intestines, duodenum, or stomach for the large intestine, and that abnormalities of the colon do not mean failure of the operation, since the abdomen can by the inguinal wound be carefully searched; (4) that the bowel can readily be drawn out of the wound,

and consequently firmly fixed to the skin without causing undue tension on the stitches; (5) that in lumbar colotomy there is frequently so much prolapse of the gut as to give rise to serious trouble; and (6) that the inguinal position of the wound is far more convenient to the patient for purposes of cleanliness as well as for the adjustment of pads, to guard against the escape of fæces and flatus.

I propose to examine these claims *seriatim*, and will do so in the light of clinical experience as supplied to us by the different classes of cases as they pass under our care, starting with the assumption that the diagnosis of rectal obstruction from cancer or other organic disease is clear. Now, cases of obstruction from rectal disease, cancerous or otherwise, as they come before the surgeon, may be divided into three great classes. The *first* includes cases which may be called *urgent*, since they are associated with acute general symptoms and severe abdominal distension. They are cases generally of annular stricture involving the upper part of the rectum. The *second* class includes cases of chronic obstruction, mostly of

the lower half of the rectum without severe general symptoms, but with abdominal distension. The *third* class includes all cases of obstruction from stricture of the rectum, but not urgent, in which the symptoms are fairly well marked but without abdominal distension. To each of these three well-defined classes of cases the operation of colotomy has its own special relation.

Is, then, the iliac or inguinal operation easier than the lumbar? Let us inquire. When applied to the first two classes of cases in which great abdominal distension exists, whether with urgent symptoms or otherwise, the difficulties of an iliac operation cannot be trifling. The advocates of the operation may make light of them, but they exist, and the dangers associated with them cannot be ignored. The chances and risks of protrusion of the small intestine as soon as the peritoneum has been opened are real, and if the large intestine has to be searched for, or the abdomen explored for diagnostic purposes, these dangers must be much enhanced. Should the large bowel appear at once at the iliac wound, the operation, it is true, would be much simpli-

fied, but this, it is admitted by its advocates, does not always occur; and when it does, the free manipulation of the bowel which is recommended, and to which attention will be drawn later on, would be both difficult and dangerous. In the third class of cases, in which the abdomen is undistended or flaccid, the difficulties of finding the bowel would be slight. On the other hand, a distended abdomen becomes in the operation of lumbar colotomy a condition of advantage, and the searching for the colon under these conditions is, as a rule, by no means a serious matter. If the patient be fat, there is doubtless at times some trouble, but if the surgeon directs his search forwards towards the reflected peritoneum, and not backwards into the lumbar fat, and at the same time rolls his patient over from the semi-prone position in which he may have been placed for operative purposes, into the semi-supine, so that the bowel may mechanically fall back towards the lumbar wound, this difficulty will be diminished or overcome. In cases in which the bowel is wholly or partially empty the same practice is also of use.

In the iliac operation, however, if the difficulties be really less than those that have to be encountered in the lumbar, the risks which necessarily appertain to the mere division of the parietal peritoneum must be taken into account, even by the surgeon who admits to the full the impunity with which the healthy peritoneum may be surgically treated. In lumbar colotomy it can only be in exceptional cases that the peritoneum is opened; and should it be so, there can be no more difficulty or danger in dealing with the wound in the lumbar operation than there is said to be in the iliac. In both the risks of peritonitis must, however, be run, whatever those risks may be. I may say that in the 170 cases of lumbar colotomy that I have performed, I have but twice, knowingly, opened the peritoneal cavity, and in those two cases no harm followed.

Conclusion.—I am compelled, therefore, to conclude that the iliac operation is not easier than the lumbar when abdominal distension is present, although when the abdomen is flaccid, such may possibly be the case.

To open the abdominal cavity to search for

and find the colon may be an easy measure; in the cadaver it certainly is so, and possibly it may be said to be more so than exposing the colon in the right or left loin. But from the patient's point of view—which is the only right one—can it be truly said that the division of the peritoneum and the searching with the finger in the peritoneal cavity for a bowel which is diseased, or suffering from congestion, the secondary result of disease, involves no more risk to life than the simple exposure of the colon in the loin outside the peritoneal cavity in the lumbar operation? When the parietal incision has been made in the iliac operation, Mr. H. Allingham states that in about half of his cases, and Mr. Cripps writes that in about a third of his, the large intestine presented at once; hence the conclusion is evident that in the remaining half or two-thirds of the cases, the bowel had to be searched for by the finger in the peritoneal cavity. Mr. Allingham goes on to show us how this should be done. These are his words: "When the large intestine does not present itself, I pass my finger into the abdomen, sliding over the iliacus muscle

until I arrive at the intestine, which I hook up to the opening with my finger and thumb. If this manœuvre fails to find the gut, I search towards the sacrum, feel for the rectum, and trace the gut up ; should this not succeed, the finger must be passed upwards towards the kidney, and the descending colon felt and traced downwards." Mr. Cripps writes : "If any other viscera than the colon present, they must be pushed back and the colon sought for by the finger. Sometimes it can be detected by the hard scybalous masses within it, or it can be traced up after passing the finger into the pelvis and feeling for it as it crosses the brim. The colon being found, a loop of it is drawn into the wound." In the cadaver, and possibly in a patient with a flaccid abdomen and viscera undistended, uncongested, and uninflamed, the manipulations which I have just described may be simple to the surgeon, and they may possibly not prove dangerous to the patient ; but with an abdomen distended, and viscera which are undergoing the secondary changes which so soon follow long-existing obstruction, this searching process, as quoted above, can neither

be free from danger to the patient nor free from difficulty for the operator; whilst in lumbar colotomy this visceral searching process in the peritoneal cavity can never be required, except on very rare occasions; for on the completion of the parietal wound and the division of the deep fascia, in at least two-thirds of my own cases—and particularly when the bowel is distended, artificially or otherwise,—the colon presents at once, and under these circumstances, after the fat and connective tissue are gently separated from the bowel by means of the fingers, the bowel is readily made to protrude through the wound, to which it is secured. In fat subjects it is true that the exposure of the colon may not prove such a simple process as that described, and when the bowel is empty some difficulty may be experienced; but if the bowel be sought as already described forwards towards the lateral reflexion of the peritoneum from the bowel, and the empty bowel be inflated by Lund's inflator, this difficulty is lessened and overcome. But under no circumstances can the searching process in the lumbar operation be made to involve such important parts as are of necessity

implicated in the iliac, although to the surgeon it may prove trying.

It is true, that if the iliac operations were always undertaken before obstruction had become a prominent symptom, and before abdominal distension had taken place, the searching process would doubtless be simplified and rendered less dangerous, although in lumbar colotomy the same conditions would be equally favorable.

Conclusion —So far therefore as the searching for the bowel in the operation of colotomy is concerned, it must be concluded that the lumbar method in the majority, if not in every case, has the advantage.

The *second* argument which the advocates of iliac colotomy advance in its favour, is that by the iliac incision the diagnosis in obscure cases may be verified before the bowel is opened. But may I ask, has this objection any real weight, and is there in the majority of cases much, nay, any, doubt as to the diagnosis of rectal or colic obstruction? In a large proportion of cases the disease is within finger-touch, and then where is the doubt? Where

the hand fails to reach, have we not in the history of the case, in the general symptoms, and in the local symptoms, and particularly where ballooning of the rectum is present,* ample evidence to justify the formation of a working diagnosis upon which to base a definite line of treatment? and when the exact seat of the obstruction is not to be made out by the clinical phenomena, have we not abundant pathological knowledge which tells us, in no uncertain way, that in four-fifths of the cases of obstruction the disease is situated below the splenic flexure, and consequently below that part of the colon which would be opened by a left lumbar colotomy, and that in the remaining fifth of the cases a right lumbar operation would almost to a certainty suffice to give relief? May I ask, therefore—should a rule of practice which has hitherto answered for the relief of chronic rectal obstruction be altered so as to suit the exceptional and not the average case, and should the general practice of surgery be moulded by its exceptional cases?

The *third* reason which has been adduced as

* The 'Lancet,' Jan. 5th, 1889.

an argument in favour of iliac colotomy is that by it there can be no possibility of the surgeon mistaking the small intestine, duodenum, or stomach for the large intestine; and that abnormalities of the colon do not mean failure of the operation, since the abdomen can by the inguinal wound be carefully searched.

The first half of this argument may have weight with some minds, but it does not recommend itself to my own. I do not regard it as a fair one, for the mistakes, to which attention has been drawn are clearly due to errors of judgment or carelessness which belong more to the operator than the operation; and in estimating the value of an operation we are bound to assume that the surgeon is reliable. Errors of all kind must creep into all work, and particularly into surgical work, but they cannot be legislated for. May I ask, are mistakes in iliac colotomy quite unknown? Has the small intestine never been opened in error? With respect to the abnormalities of the colon, about which so much has been written and said, and upon which the advocates of the iliac operation base an argument against lumbar colotomy, I hardly

know what to say. That such may occur, I, as an anatomist, must admit; but if so, I presume to suggest that this same chance of abnormality may occasion trouble in the iliac as in the lumbar method, although such may possibly be of a different form. But in a surgical point of view is the chance of an abnormality of the colon being present an argument which should tell more against lumbar than iliac colotomy? My own experience says "no," with no uncertain sound, since out of my 170 cases of lumbar colotomy I have not met with any instance which gave rise to a serious trouble, or that rendered the operation in any way a failure. On one occasion I had to increase my oblique incision forward and pick up the colon at the brim of the pelvis, thus opening the peritoneum; but I subsequently restitched the edges of the peritoneum to the bowel and completed the operation as usual, and with a good result. With this experience, therefore, whilst we may admit the possibility, we may, I think, fearlessly dismiss the probability of the presence of any abnormality of the bowel from our minds, and regard it with no more fear than we do the risk of

meeting with an anatomical irregularity in any operation upon an artery for aneurysm or other purpose. In a surgical point of view the risk need not influence practice, and certainly should not tell against the lumbar operation.

The *fourth* argument adduced in favour of the iliac operation, "that the bowel can readily be drawn out of the wound and consequently firmly fixed to the skin without causing undue tension on the stitches," is in a measure true; but it applies more to the condition of the large bowel when empty than it does to that of a patient the subject of obstruction, since a loaded bowel could hardly be thus manipulated. An empty sigmoid flexure can, however, when seized, be readily drawn through the iliac wound to the extent of many inches, whereas an empty colon can at the most be drawn out through the lumbar wound to the extent of three or four inches. But is this free extrusion of the bowel at either the iliac or lumbar opening a matter of primary importance? is it essential for the formation of a spur deep enough to prevent the passage of fæces past the artificial opening into the bowel below,

and so down the gut to the seat of disease, where it may become a source of local irritation and pain? Mr. Herbert Allingham and Mr. Harrison Cripps, the two most prolific writers upon this subject, say it is; but of this I think evidence is wanting, since my own experience tells me that this result can usually be brought about by much milder measures than those suggested and carried into practice by the advocates of iliac colotomy.

In my own practice of lumbar colotomy, in which an oblique parietal incision is its leading feature, I have been able to secure this result not only in the majority of cases in which I have been called upon to operate at a stage of the disease in which the symptoms were not urgent and the colon was not overloaded, but in a large proportion of the urgent cases undertaken for obstruction. This result has been secured by separating the colon from its posterior lumbar attachments by means of the finger; drawing it well out of the wound; and so rotating it forwards as to bring the posterior wall of the bowel with its longitudinal band to the surface, and there fixing it. In some in-

stances this desirable result was secured rapidly after convalescence, in others it was not obtained for several months, and in three or four cases I have had to enlarge the wound backwards towards the kidney to bring it about. The strongest evidence I can bring forward to support this practice is, however, found in the fact that in three examples of recto-vesical fistula upon which I have operated, and in which the passage of fæces and flatus into the bladder caused intense distress, neither fæces nor flatus passed downwards into the bladder within a few weeks of the operation, although in two of the cases urine occasionally passed at night from the bladder upwards, and escaped out of the lumbar wound. One of these patients lived eighteen months after the operation, a second lived seven years, and the third was known to have been alive and well fifteen years later. I have likewise many patients now going about the world enjoying life in comparative comfort who are never troubled by the passage of fæces downwards to the seat of disease. It is true that this desirable condition is not always to be secured, more particularly when the opera-

tion has been undertaken with a bowel over-distended, under circumstances of urgency, and when the surgeon is unable to bring about the required extrusion of the colon through the wound. But even in these cases there is not always any very serious distress, particularly if the rectum and the lower part of the bowel be kept empty by the use of cleansing enemata followed by the introduction of a sedative suppository; for with the artificial anus established above the seat of obstruction, the straining and forcing of the bowel, which previously may have caused much distress, are done away with, and as a consequence there is comparatively little pelvic pain. Indeed, even a foreign body may rest for months at the seat of obstruction without giving rise to any serious symptoms; for I have here [showing the specimen] a rubber plug which was, from carelessness on the part of a medical patient, allowed to pass from the colotomy wound downwards into the rectum to the seat of disease, and which remained in that position for twenty months without giving rise to any trouble, and was then expelled upwards by the action of the in-

testine and out of the colotomy wound, when the history of the lost plug was obtained. It may, therefore, be said that in the majority of cases of lumbar colotomy a sufficient spur is commonly obtained by the simple measures I have been in the habit of employing and which I have just described.

Before leaving this question of spur, I must allow the advocates of the iliac operation to explain their practice, and I shall do so by using their own words. Mr. Herbert Allingham, in the last edition of his father's work on 'Diseases of the Rectum,' as well as in papers of his own published in the 'British Medical Journal' for October 22nd, 1887, and April 27th, 1889, goes fully into the way he believes this spur is to be obtained, and at the same time points out by what means the serious prolapse of the bowel, which he admits frequently follows the iliac operation, can be best guarded against. Mr. Cripps also describes his method in the same journal for April 27th, 1889. "When the gut is found," writes Mr. Allingham, "and brought to the surface, I look for a piece with a sufficient mesentery, by pass-

ing the gut through the fingers ; of course this can only be done if the disease is in the rectum or lower part of the sigmoid flexure. Generally the part of the sigmoid first pulled up has quite sufficient mesentery. If it is fixed to the back of the abdomen, there being a very short mesentery, I pull up as much of the gut as possible, and stitch it to the wound, so that the intestine when opened (some days later) looks like the orifice of a double-barrelled gun. This appearance is obtained by introducing the suture in the following way :—A needle threaded with carbolised silk is passed through the mesentery, close to the intestine, then through the abdominal wall on both sides at the middle of the wound, and the sutures are tied up tight. If there is little or no sigmoid meso-colon, I am obliged to pass the sutures through the muscular and serous coats of the gut at its posterior part. Leaving a fair-sized knuckle of loose gut outside the wound, I next sew the gut all round to the skin, passing the thread only through the muscular and serous coats. This is done carefully, so as not to prick the mucous coat. Antiseptic dressings are then applied. The gut is

not opened for two or three days, unless bad symptoms appear." Mr. Harrison Cripps writes: "The colon being found, a loop of it is drawn into the wound. In order to avoid *the prolapse which is likely to occur* if loose folds of the sigmoid flexure remain immediately above the opening, I gently draw out as much loose bowel as will readily come, passing it in again at the lower angle as it is drawn out from above. In this way, after passing through one's fingers an amount varying from one to several inches, no more will come. Two provisional ligatures of stout silk are passed through the longitudinal muscular band opposite the mesenteric attachment. These provisional ligatures help to steady the bowel during its subsequent stitching to the skin, and, moreover, are useful guides when the bowel is ultimately opened. They should be about two inches apart." I have quoted in full these two surgeons' remarks upon the methods they employ to bring about the required result, as my desire is to do them full justice; but I cannot fail to draw the conclusion that, to carry out the practice as recommended, it is clearly intended, although it is not

stated, that the operation of colotomy should be undertaken at an early period of disease, and before symptoms of obstruction have become marked, for the manipulations described could never be carried out with an inflated abdomen and distended and possibly injured colon, nor could they be said to be free from danger. The means these surgeons employ to obtain their object are far more serious, and in my view more dangerous, and, so far as evidence goes, not more successful than the simple measures I have already described as applicable to the lumbar operation.

The next or *fifth* objection that I have to consider which has been raised against lumbar colotomy has reference to the prolapse of the bowel, which is said by the advocates of the iliac method to occur after convalescence has taken place in the lumbar operation, and which is stated to give rise to serious trouble. I must assume that this objection is real and based upon facts, and is not theoretical; for my own experience does not allow me to support it in any way. Indeed, in only one out of my 170 cases has this complication arisen, and in it it was the distal end

of the colon which was at fault. The prolapse was also readily controlled.

A certain amount of prolapse after lumbar colotomy must be looked upon as an advantage, and I never feel certain that my patients are safe from the occasional passage of fæces past the lumbar wound downwards into the rectum until it has formed. I like one equal in extent to that which normally takes place in the horse in the defæcating act. Such a prolapse I have called the equine prolapse.

To have the question of prolapse, therefore, raised as an objection to lumbar colotomy is somewhat comical, and more particularly when we read in the writings of the advocates of the iliac method of the very severe measures which are considered justifiable to guard against it. Upon this point Mr. Allingham writes: "Through the new opening in the groin the intestine protrudes, and is a source of constant trouble and discomfort. Some patients have told me that had they been aware of the possible sequela they would never have consented to undergo the operation. Their life is simply spoilt, and they are practically prevented from going about

and mixing with the world at large in consequence of the constant protrusion of the mass." After this serious grievance has been noticed, he goes on to describe the measures he adopts to prevent this trouble from following the iliac operation; and these means are, first, the pulling out of the gut through the iliac wound by its lower end till no more can be made to protrude, and this is to be followed by the same treatment of the upper end. The mesentery is now quite taut, and a large bunch of intestine several inches in length has been drawn through the opening, and is allowed to rest upon the abdomen. This bunch is then at its neck carefully stitched through its mesentery and muscular and serous coats to the edges of the wound. Later on this mass is excised, and it is interesting to note that quantities ranging from three and a half ounces to six ounces in weight of intestine can be removed, without, as Mr. Allingham adds, "any apparent detriment to the patient." As a physiological experiment these facts are of interest, but surely in a purely surgical point of view these measures tend to magnify the dangers of the iliac operation.

Mr. H. Allingham admits this to be the case, and "confesses that this supplementary procedure of cutting away so large a quantity of gut has materially increased the seriousness of the operation; although," he adds, "the exceeding discomfort occasioned by this possible procidentia necessitates a fair grappling with the circumstances."

Mr. Allingham fails, however, to point out what must be as evident to his as it is to my mind, "that the pulling out of the gut through the iliac wound by its lower end till no more can be made to protrude, and this to be followed by the same treatment of the upper end," must of necessity bring the local disease for which the colotomy is made dangerously near the wound. For my own part, if the measures I have quoted be necessary to make iliac colotomy a success, I can hardly admit that the operation as a rule of practice should be chosen so long as we have at our disposal the old and approved lumbar method, the objections to which are very unreal, and which under no circumstances can be complicated with conditions which can require any such severe surgical measures as those I

have described, and particularly if the case be treated early. The last and *sixth* argument I have to notice which is raised against lumbar and in favour of iliac colotomy has reference to the position of the artificial anus; the advocates of the latter operation maintaining that the iliac anus is more convenient to the patient for purposes of cleanliness as well as for the adjustment of pads to guard against the escape of fæces and flatus. Now, is this wholly true? That it is so to a degree may be at once admitted, for with an anterior wound the necessary process of washing is more readily carried out than it can be with a lumbar opening, although with it the difficulties are not found to be serious. But can it be said that the escape of fæces and flatus from the iliac opening is more readily controlled by pads and instruments than it has been found to be from the lumbar? My own experience tells altogether the other way; for the loin is a fixed and firm position, and its condition is much the same so far as resistance is concerned at all times. A good pad and dressing can consequently be readily maintained *in situ* without trouble or inconvenience; and if the

patient wear stays, this difficulty is lessened. With the iliac method these stable conditions of parts cannot be said to exist. A pad and bandage which is satisfactorily adjusted with the patient standing will require readjustment with the patient sitting; and the variable condition of the bowel itself must always keep up constant change. I have been consulted by several subjects of iliac colotomy upon this point, and found their grievance to be a real one, and more particularly since it is irremediable. In three cases of iliac artificial anus which I have had, the difficulty was insuperable. Upon this score therefore, as upon many others, I hold the lumbar operation to be preferable.

There are also certain cases of rectal cancer in which iliac colotomy seems to be quite inapplicable—that is, when the disease is fairly high up and involves the bowel above the brim of the pelvis. In these cases iliac colotomy would be a failure, as the opening would be below the seat of the disease, or the colotomy wound would be too near the diseased structure to be a success, since the chances of the growth spreading to the wound would be great, and the

complication most detrimental. In all cases of iliac colotomy for rectal cancer this fear is real; indeed, in the lumbar operation itself cases are not rare in which the lumbar wound has become involved from the extension of the rectal disease. On the other hand, there is a class of cases in which the iliac method may have the advantage, and that is when the diagnosis of the case is less clear than usual, and the position of the bowel uncertain. Of this I have had one example, the incision, as Mr. Cripps rightly states, acting at first as an exploratory procedure for diagnostic purposes, and later on as a remedial measure. But these cases are most exceptional, and, as I have already said, the practice of surgery must be based upon average cases, and not upon rarities. By iliac colotomy also the surgeon may be more frequently able to turn the case into one of colectomy, or excision of the growth, than by the lumbar method. I have done this but once in all my lumbar operations, and that case is fully recorded in the Royal Medical and Chirurgical Transactions for 1882, vol. lxv. With these comments upon the objections which have been

raised against lumbar colotomy, and the supposed advantages of the iliac method, I must now sum up my material; and to save time I have done so in the form of a series of propositions.

1. For the iliac operation to be a success, the large bowel should not be loaded with fæces, the abdomen be by no means tense, and the symptoms of obstruction far from urgent; since under opposite conditions (such as those too commonly met with) its supposed advantages would hardly be demonstrated. The searching for the bowel would, moreover, be a serious difficulty; the free manipulation, extrusion, or excision of the bowel which is advised would be unsafe even if practicable, and the necessity of having to open the bowel upon its exposure would, when called for, add to the dangers of the measure. The iliac operation consequently would appear to be applicable to only a small class of cases. If, then, it can be said that iliac colotomy is an easier operation than the lumbar, when the large bowel is empty, the abdomen flaccid, and the symptoms of obstruction unpronounced, it can without hesi-

tation be asserted that with a distended abdomen and colon and urgent symptoms the lumbar operation is the simpler of the two.

2. To search for the colon in iliac colotomy performed upon a patient with an undistended abdomen and free from all urgent symptoms may neither be difficult nor dangerous; but with the opposite condition, in which the bowel above the immediate seat of disease is damaged from prolonged obstruction, danger must exist, and such a danger must be added to that which appertains to the peritoneal wound. In lumbar colotomy neither of these dangers has to be met; such searching for, extrusion, and dragging outwards of the colon as is considered to be essential in the iliac operation is never requisite, since the spur which is considered to be so essential to guard against the passage of fæces past the artificial opening in the iliac method can in the lumbar be obtained by far simpler means.

3. The prolapse of the bowel at the artificial opening which has been adduced as an objection against lumbar colotomy does not rightly or of necessity belong to it. To judge by my own

experience, it is imaginary. In the iliac operation the objection is admitted, and sought to be remedied by an operative measure which is in itself of far greater magnitude than any lumbar colotomy I have ever done or seen.

4. The fear of an abnormality of the colon rendering the operation of lumbar colotomy a failure is practically groundless. I have known it to occur but once in my own practice, and in that case the patient suffered no harm. Such a fear, therefore, need in no way tell against the lumbar measure.

5. The greater convenience of the iliac over the lumbar wound for toilet purposes may at first sight seem plausible, but this apparent advantage is more than counterbalanced by the greater difficulty that exists in keeping any dressing or compress in position over the anterior opening to prevent the escape of the intestinal contents than is ever experienced over the lumbar.

6. The final conclusion is, therefore, clear that iliac colotomy is not yet proved to be superior to the lumbar operation. In doubtful cases, in which an exploratory incision is re-

quired for diagnostic purposes, it may be useful, but such cases are very few; in all others, lumbar colotomy has advantages which stamp it as the better measure.

The single advantage that I can see in the adoption of the iliac method is that the question of operative interference will have to be taken into account at a far earlier period of the patient's trouble than it has been hitherto the custom to consider the propriety of the lumbar operation; if so, we may soon see the valuable operation of lumbar colotomy take its right place in the practice of surgery, and good may come out of a fashion which has certainly not been a universal success.

I regret to say that the notes of my cases are not sufficiently full to allow me by statistics to support a valuable remark by Mr. Jessop, in his instructive paper on the Treatment of Cancer of the Rectum at the Leeds meeting of the British Medical Association in August last, although I am convinced that, upon the whole, he is right, and "that in cancer of the lower half of the rectum we have not much fear of the occurrence of complete stoppage, and that that which

occurs may in the majority of cases be got over for a time by injections, the introduction of the finger, or of bougies, the use of laxatives, and the like; but that where the upper portions of the rectum are involved, complete blockage is almost certain sooner or later to appear." Mr. Jessop's explanation of this fact is also doubtless correct, and it is found in the anatomical relations of the upper and lower portions, for whereas the rectum as it approaches the outlet becomes more closely applied to the sacrum and pelvic wall, in its superior portion it is comparatively free, and thus the contractile action of the colon above is exerted with effect in forcing the contents through a contracted ring where that ring is fixed and immoveable; whereas, when the narrowed portion is free, moveable, and not attached, as it is when seated in the upper portions of the rectum, the efforts of the bowel above succeed only in invaginating or otherwise displacing the growth, often so as to enable us to make a complete diagnosis by bringing the disease within reach of the finger, and fail altogether in effecting any onward movements of the contents.

In cancerous disease of the lower part of the rectum colotomy is, therefore, called for more for the purposes of relief of local distress than for pressing obstruction ; whilst in the cases of cancer of the upper part of the bowel, the same treatment is called for, again using Mr. Jessop's words "as soon at least as the first symptoms of impending blockage appear, and in time to anticipate those further changes upon which the mortality of colotomy so much depends."

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